Permit #: **28.9901-19**

Effective Date: **DRAFT**

Expiration Date: **DRAFT**

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

MINOR AIR QUALITY OPERATING PERMIT

Steven M. Pirner, Secretary
Department of Environment and Natural Resources

Under the South Dakota Air Pollution Control Regulations

Pursuant to Chapter 34A-1-21 of the South Dakota Codified Laws and the Air Pollution Control Regulations of the State of South Dakota and in reliance on statements made by the owner designated below, a permit to operate is hereby issued by the Secretary of the Department of Environment and Natural Resources. This permit authorizes such owner to operate the source unit(s) at the location designated below and under the listed conditions.

A. Owner

1. Company Name and Mailing Address

Clay Rural Water System, Inc.
30376 SD HWY 19
Wakonda, SD 57073-6416

2. Actual Source Location if Different from Above

Same

3. Permit Contact

Greg Merrigan, System Manager
(605) 267-2088

4. Facility Contact

Same

5. Responsible Official

Same

B. Permit Revisions or Modifications

None

C. Type of Operation

Water treatment plant.

Table of Contents

Page

1.0 Standard Conditions....1
- **1.1 Operation of source....1**
- **1.2 Duty to comply....1**
- **1.3 Property rights or exclusive privileges....1**
- **1.4 Penalty for violating a permit condition....2**
- **1.5 Inspection and entry....2**
- **1.6 Severability....2**
- **1.7 Permit termination, modification, or revocation....2**

2.0 Permit Amendments and Modifications....2
- **2.1 Permit flexibility....2**
- **2.2 Administrative permit amendment....3**
- **2.3 Minor permit amendment....3**
- **2.4 Permit modification....4**
- **2.5 Permit revision....4**
- **2.6 Testing new fuels or raw materials....4**

3.0 Permit Renewal....5
- **3.1 Permit effective....5**
- **3.2 Permit renewal....5**
- **3.3 Permit expiration....5**

4.0 Recordkeeping and Reporting....5
- **4.1 Recordkeeping and reporting....5**
- **4.2 Signatory requirements....6**
- **4.3 Certification statement....6**
- **4.4 Reporting permit violations....6**

5.0 Control of Regulate Air Pollutants....7
- **5.1 Visibility limit....7**
- **5.2 Visibility exceedances....7**
- **5.3 Total suspended particulate matter limits....7**
- **5.4 Sulfur dioxide limits....8**
- **5.5 Circumvention not allowed....8**
- **5.6 Minimizing emissions....8**

6.0 Performance Tests....8
- **6.1 Performance test may be required....8**
- **6.2 Test methods and procedures....9**
- **6.3 Representative performance test....9**
- **6.4 Submittal of test plan....9**
- **6.5 Notification of test....9**

Table of Contents

Page

6.6 Performance test report 9

7.0 Subpart ZZZZ Requirements..... 10

Z.0 GENERATOR REQUIREMENTS FOR HAPS..... 10

Z.1 Date to comply with emission standards..... 10

Z.2 Emission limit for generator 10

Z.3 Operating limitations..... 10

Z.4 Fuel requirements. 11

Z.5 General requirements. 11

Z.6 Initial testing..... 11

Z.7 Initial testing may not be required. 11

Z.8 Performance test procedures. 12

Z.9 Installation of open or closed crankcase system..... 16

Z.10 Minimizing engine time during startup 16

Z.11 Monitoring and collecting data to demonstrate continuous compliance. 16

Z.12 Reporting deviations. 17

Z.13 Performance test notifications..... 17

Z.14 Notification of compliance status. 17

Z.15 Semiannual compliance report. 18

Z.16 Recordkeeping. 19

Z.17 Circumvention not allowed. 19

8.0 Recommendation 19

1.0 Standard Conditions

1.1 Operation of source

In accordance with Administrative Rules of South Dakota (ARSD) 74:36:04:15(9), the owner or operator shall operate the units, controls, and processes as described in Table 1-1 in accordance with the statements, representations, and supporting data contained in the complete permit application received July 30, 2012 unless modified by the conditions of this permit. Except as otherwise provided herein, the control equipment shall be operated at all times in accordance with the manufacturer's specification and in a manner that achieves compliance with the conditions of this permit. The application consists of the application forms, supporting data, and supplementary correspondence. If the owner or operator becomes aware it failed to submit any relevant facts in a permit application or submitted incorrect information in an application, such information shall be promptly submitted.

Table 1-1 – Description of Permitted Units, Operations and Processes

Unit	Description	Maximum Operating Rate	Control Device
#1	Generator #1- 1995 Cummins Onan Model # 200 DFAA/79481E diesel fuel fired generator	380 hp	Not Applicable

1.2 Duty to comply

In accordance with ARSD 74:36:04:15(12), the owner or operator shall comply with the conditions of this permit. An owner or operator who knowingly makes a false statement in any record or report or who falsifies, tampers with, or renders inaccurate, any monitoring device or method is in violation of this permit. A violation of any condition in this permit is grounds for enforcement, reopening this permit, permit termination, or denial of a permit renewal application. The owner or operator, in an enforcement action, cannot use the defense that it would have been necessary to cease or reduce the permitted activity to maintain compliance. The owner or operator shall provide any information requested by the Secretary to determine compliance or whether cause exists for reopening or terminating this permit. This permit does not waive compliance with federal, state, or local laws and ordinances.

1.3 Property rights or exclusive privileges

In accordance with ARSD 74:36:04:15(12), the State's issuance of this permit, adoption of design criteria, and approval of plans and specifications does not convey any property rights of any sort, any exclusive privileges, any authorization to damage, injure or use any private property, any authority to invade personal rights, any authority to violate federal, state or local laws or regulations, or any taking, condemnation or use of eminent domain against any property owned by third parties. The State does not warrant the owner's or operator's compliance with this permit, design criteria, approved plans and specifications, and operation under this permit, will not cause damage, injury or use of private property, an invasion of personal rights, or violation of federal, state or local laws or regulations. The owner or operator is solely and severally liable for all damage, injury or use of private property, invasion of personal rights,

infringement of federal, state or local laws and regulations, or taking or condemnation of property owned by third parties, which may result from actions taken under the permit.

1.4 Penalty for violating a permit condition

In accordance with South Dakota Codified Laws (SDCL) 34A-1-39 and 34A-1-47, a violation of a permit condition may subject the owner or operator to civil or criminal prosecution, a state penalty of not more than $10,000 per day per violation, injunctive action, administrative permit action, and other remedies as provided by law.

1.5 Inspection and entry

In accordance with SDCL 34A-1-41, the owner or operator shall allow the Secretary, upon presentation of credentials, to:

1. Enter the premises where a regulated activity is located or where pertinent records are stored;
2. Have access to and copy any records required under this permit;
3. Inspect operations regulated under this permit; and/or
4. Sample or monitor any substances or parameters for the purpose of assuring compliance.

1.6 Severability

In accordance with ARSD 74:36:04:15(11), any portion of this permit that is void or challenged shall not affect the validity of the remaining permit requirements.

1.7 Permit termination, modification, or revocation

In accordance with ARSD 74:36:04:27, the Secretary may recommend that the Board of Minerals and Environment terminate, modify, or revoke this permit for violations of SDCL 34A-1 or the federal Clean Air Act or for nonpayment of any outstanding enforcement penalty.

2.0 Permit Amendments and Modifications

2.1 Permit flexibility

In accordance with ARSD 74:36:04:18, the owner or operator shall have the flexibility to make changes to the source during the term of this permit. The owner or operator shall provide the Secretary written notice at least seven days in advance of the proposed change (NOTE: The Secretary will forward a copy of the written notice to EPA). The written notice shall include a brief description of the change, the date on which the change is to occur, any change in emissions, the proposed changes to the permit, and whether the requested revisions are for an administrative permit amendment, minor permit amendment, or permit modification.

The Secretary will notify the owner or operator whether the change is an administrative permit amendment, a minor permit amendment, or a permit modification. A proposed change that is considered an administrative permit amendment or a minor permit amendment can be completed

immediately after the Secretary receives the written notification. The owner or operator must comply with both the applicable requirements governing the change and the proposed permit terms and conditions until the Secretary takes final action on the proposed change.

A proposed change that is considered a modification cannot be implemented until the Secretary takes final action on the proposed change or the owner or operator was issued an air quality construction permit. Permit modifications are subject to the same procedural requirements, including public comment, as the original permit issuance except that the required review shall cover only the proposed changes.

2.2 Administrative permit amendment

In accordance with ARSD 74:36:04:20, the Secretary has 15 days from receipt of a written notice to verify the proposed change is an administrative permit amendment. As provided in ARSD 74:36:01:03, the Secretary considers a proposed change an administrative permit amendment if the proposed change accomplishes one of the following:

1. Corrects typographical errors;
2. Changes the name, address, or phone number of any person identified in this permit or provides a similar minor administrative change;
3. Requires more frequent monitoring or reporting;
4. The ownership or operational control changes and the Secretary determines no other change in this permit is necessary. However, the new owner must submit a certification of applicant form and a written statement specifying the date for transfer of operating permit responsibility, coverage, and liability; or
5. Any other changes the Secretary and the administrator of EPA determines to be similar to those requirements in this condition.

2.3 Minor permit amendment

In accordance with ARSD 74:36:04:20.04, the Secretary has 90 days from receipt of a written notice to take final action on a minor permit amendment. Final action consists of issuing or denying a minor permit amendment or determining the proposed change is a permit modification. As provided in ASRD 74:36:04:20:02, the Secretary considers a proposed change to be a minor permit amendment if the proposed change:

1. Does not violate any applicable requirements;
2. Does not involve significant changes to existing monitoring, reporting, or recordkeeping requirements;
3. Does not require or change a case-by-case determination of an emission limit or other standard, a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis; or
4. Does not seek to establish or change a permit term or condition for which the source has assumed to avoid an applicable requirement, a federally enforceable emission cap, or an

alternative emission limit. An alternative emission limit is approved pursuant to regulations promulgated under section 112(i)(5) of the federal Clean Air Act.

2.4 Permit modification

In accordance with ARSD 74:36:04:21, an owner or operator may apply for a permit modification. A permit modification is defined in ARSD 74:36:01:10 as a physical change in or change in the operation of a source that results in at least one of the following:

1. An increase in the amount of an air pollutant emitted by the source or results in the emission of an air pollutant not previously emitted;
2. A significant change to existing monitoring, reporting, or recordkeeping requirements in the permit;
3. The change requires or changes a case-by-case determination of an emission limit or other standard, a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis; or
4. The change seeks to establish or change a permit term or condition for which there is a corresponding underlying applicable requirement that the source has assumed to avoid an applicable requirement, a federally enforceable emissions cap assumed to avoid classification as a modification under a provision of the Title I of the Clean Air Act, or an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Clean Air Act.

Permit modifications are subject to the same procedural requirements, including public comment, as the original permit issuance except the required review shall cover only the proposed changes.

2.5 Permit revision

In accordance with ARSD 74:36:04:23, the Secretary may reopen and revise this permit to meet requirements of SDCL 34A-1 or the federal Clean Air Act. In accordance with ARSD 74:36:04:24, the Secretary shall notify the owner or operator at least 30 days before reopening this permit. The 30-day period may be less in the case of an emergency.

2.6 Testing new fuels or raw materials

In accordance with ARSD 74:36:11:04, an owner or operator may request permission to test a new fuel or raw material to determine if it is compatible with existing equipment before requesting a permit amendment or modification. A complete test proposal shall consist of the following:

1. A written proposal describing the new fuel or raw material, operating parameters, and parameters that will be monitored and any testing associated with air pollutant emissions during the test;
2. An estimate of the type and amount of regulated air pollutant emissions resulting from the proposed change; and

3. The proposed schedule for conducting the test. In most cases the owner or operator will be allowed to test for a maximum of one week. A request for a test period longer than one week will need additional justification. A test period shall not exceed 180 days.

The Secretary shall approve, conditionally approve, or deny in writing the test proposal within 45 days after receiving a complete proposal. Approval conditions may include changing the test schedule or pollutant sampling and analysis methods. Pollutant sampling and analysis methods may include, but are not limited to performance testing, visible emission evaluation, fuel analysis, dispersion modeling, and monitoring of raw material or fuel rates.

If the Secretary determines the proposed change will result in an increase in the emission of a regulated air pollutant or result in the emission of an additional regulated air pollutant, the Secretary shall give public notice of the proposed test for 30 days. The Secretary shall consider all comments received during the 30-day public comment period before making a final decision on the test.

The Secretary will not approve a test if the test would cause or contribute to a violation of a national ambient air quality standard.

3.0 Permit Renewal

3.1 Permit effective

In accordance with ARSD 74:36:04:05, this permit shall expire five years from date of issuance unless reopened or terminated for cause.

3.2 Permit renewal

In accordance with ARSD 74:36:04:06, the owner or operator shall submit an application for a permit renewal at least 90 days before the date of permit expiration if the owner or operator wishes to continue to operate an activity regulated by this permit. The current permit shall not expire and shall remain in effect until the Secretary takes final action on the timely permit renewal application.

3.3 Permit expiration

In accordance with ARSD 74:36:04:16, permit expiration terminates the owner's or operator's right to operate any unit covered by this permit.

4.0 Recordkeeping and Reporting

4.1 Recordkeeping and reporting

In accordance with ARSD 74:36:04:15(10), the owner or operator shall maintain all monitoring data, records, reports, and pertinent information specified by this permit for five years from the

date of sample, measurement, report, or application unless otherwise specified in this permit. The records shall be maintained on site for the first two years and may be maintained off site for the last three years. All records must be made available to the Secretary for inspection. All notifications and reports shall be submitted to the following address:

South Dakota Department of Environment and Natural Resources
PMB 2020, Air Quality Program
523 E. Capitol, Joe Foss Building
Pierre, SD 57501-3182

4.2 Signatory requirements

In accordance with ARSD 74:36:04:07, all applications submitted to the Secretary shall be signed and certified by a responsible official. A responsible official for a corporation is a responsible corporate officer and for a partnership or sole proprietorship is a general partner or the proprietor, respectively. All reports or other information submitted to the Secretary shall be signed and certified by a responsible official or a duly authorized representative. A person is a duly authorized representative only if:

1. The authorization is made in writing by a person described above and submitted to the Secretary; and
2. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters.

The responsible official shall notify the Secretary if an authorization is no longer accurate. The new duly authorized representative must be designated prior to or together with any reports or information to be signed by a duly authorized representative.

4.3 Certification statement

In accordance with ARSD 74:36:04:15(10), all documents required by this permit, including application forms, reports, and compliance certification, must be certified by a responsible official or a duly authorized representative. The certification shall include the following statement:

> "I certify that, based on information and belief formed after reasonable inquiry, the statements and information in this document and all attachments are true, accurate, and complete."

4.4 Reporting permit violations

In accordance with ARSD 74:36:04:15(10), the owner or operator shall report all permit violations. A permit violation should be reported as soon as possible, but no later than the first business day following the day the violation was discovered. The permit violation may be

reported by telephone to the South Dakota Department of Environment and Natural Resources at (605) 773-3151 or by FAX at (605) 773-4068.

A written report shall be submitted within five days of discovering the permit violation. Upon prior approval from the Secretary, the submittal deadline for the written report may be extended up to 30 days. The written report shall contain:

1. A description of the permit violation and its cause(s);
2. The duration of the permit violation, including exact dates and times; and
3. The steps taken or planned to reduce, eliminate, and prevent reoccurrence of the permit violation.

The Secretary may waive the written report on a case-by-case basis if the oral report has been received within the reporting period and dependent upon the severity of the permit violation.

5.0 Control of Regulate Air Pollutants

5.1 Visibility limit

In accordance with ARSD 74:36:12:01, the owner or operator may not discharge into the ambient air an air contaminant of a density equal to or greater than that designated as 20 percent opacity from any permitted unit, operation, or process listed in Table 1-1, unless otherwise specified in this permit. This provision does not apply when the presence of uncombined water is the only reason for failure to meet the requirement.

5.2 Visibility exceedances.

In accordance with ARSD 74:36:12:02, an exceedance of the operating limit in permit condition 5.1 is not considered a violation during brief periods of soot blowing, start-up, shutdown, or malfunctions. Malfunction means any sudden and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner. A failure caused entirely or in part by poor maintenance, careless operation, preventable equipment breakdown, or any other cause within the control of the owner or operator is not a malfunction and is considered a violation.

5.3 Total suspended particulate matter limits.

In accordance with ARSD 74:36:06:02(1), the owner or operator shall not allow the emission of total suspended particulate matter in excess of the emission limit specified in Table 5-1 for the appropriate permitted unit, operation, and process.

Table 5-1 – Total Suspended Particulate Matter Emission Limit

Unit	Description	Emission Limit
#1	Generator	0.6 pounds per million Btus of heat input

5.4 Sulfur dioxide limits

In accordance with ARSD 74:36:06:02(2), the owner or operator shall not allow the emission of sulfur dioxide in excess of the emission limit specified in Table 5-2 for the appropriate permitted unit, operations, and process.

Table 5-2 – Sulfur Dioxide Emission Limit

Unit	Description	Emission Limit
#1	Generator	3.0 pounds per million Btu heat input

Compliance with the sulfur dioxide emission limit is based on a three-hour rolling average, which is the arithmetic average of three contiguous one-hour periods.

5.5 Circumvention not allowed

In accordance with ARSD 74:36:04:31, the owner or operator may not install, use a device, or use a means that conceals or dilutes an air emission that would otherwise violate this permit. This includes operating a unit or control device that emits air pollutants from an opening other than the designed stack, vent, or equivalent opening.

5.6 Minimizing emissions

In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.6(e)(1)(i), the owner or operator shall at all times, including periods of startup, shutdown, and malfunction, operate and maintain any permitted unit, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. During a period of startup, shutdown, or malfunction, this general duty to minimize emissions requires the owner or operator to reduce emissions from the permitted unit to the greatest extent which is consistent with safety and good air pollution control practices. The general duty to minimize emissions during a period of startup, shutdown, or malfunction does not require the owner or operator to achieve emission levels that would be required by the applicable standard at other times if this is not consistent with safety and good air pollution control practices, nor does it require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Secretary which may include, but is not limited to, monitoring results, review of operation and maintenance procedures (including a startup, shutdown, and malfunction plan, if required), review of operation and maintenance records, and inspection of the operation.

6.0 Performance Tests

6.1 Performance test may be required

In accordance with ARSD 74:36:11:02, the Secretary may request a performance test during the term of this permit. A performance test shall be conducted while operating the unit at or greater than 90 percent of its maximum design capacity, unless otherwise specified by the Secretary. A

performance test conducted while operating less than 90 percent of its maximum design capacity will result in the operation being limited to the percent achieved during the performance test. The Secretary has the discretion to extend the deadline for completion of performance test required by the Secretary if circumstances reasonably warrant but will not extend the deadline past a federally required performance test deadline.

6.2 Test methods and procedures

In accordance with ARSD 74:36:11:01, the owner or operator shall conduct the performance test in accordance with 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M. The Secretary may approve an alternative method if a performance test specified in 40 CFR Part 60, Appendix A, 40 CFR Part 63, Appendix A, and 40 CFR Part 51, Appendix M is not federally applicable or federally required.

6.3 Representative performance test

In accordance with ARSD 74:36:07:01, as referenced to 40 CFR § 60.8(c), performance tests shall be conducted under such conditions as the Secretary shall specify to the owner or operator based on the representative performance of the unit being tested. The owner or operator shall make available to the Secretary such records as may be necessary to determine the conditions of the performance tests. Operations during periods of startup, shutdown, and malfunction shall not constitute representative conditions for the purpose of a performance test nor shall emissions in excess of the level of the applicable emission limit during periods of startup, shutdown, and malfunction be considered a violation of the applicable emission limit unless otherwise specified in this permit.

6.4 Submittal of test plan

In accordance with ARSD 74:36:11:01, the owner or operator shall submit the proposed testing procedures to the Secretary at least 30 days prior to any performance test. The Secretary will notify the owner or operator if the proposed test procedures are approved or denied. If the proposed test procedures are denied, the Secretary will provide written notification outlining what needs to be completed for approval.

6.5 Notification of test

In accordance with ARSD 74:36:11:03, the owner or operator shall notify the Secretary at least 10 days prior to the start of a performance test to arrange for an agreeable test date when the Secretary may observe the test. The Secretary may extend the deadline for the performance test in order to accommodate schedules in arranging an agreeable test date.

6.6 Performance test report

In accordance with ARSD 74:36:04:15(10), the owner or operator shall submit a performance test report to the Secretary within 60 days after completing the performance test or by a date designated by the Secretary. The performance test report shall contain the following information:

1. A brief description of the process and the air pollution control system being tested;

2. Sampling location description(s);
3. A description of sampling and analytical procedures and any modifications to standard procedures;
4. Test results represented in the same terminology as the permit limits;
5. Quality assurance procedures and results;
6. Records of operating conditions during the test necessary for demonstrating compliance with the permit limits, preparation of standards, and calibration procedures;
7. Raw data sheets for field sampling and field and laboratory analyses;
8. Documentation of calculations;
9. All data recorded and used to establish parameters for compliance monitoring; and
10. Any other information required by the test method.

7.0 Subpart ZZZZ Requirements

Z.0 GENERATOR REQUIREMENTS FOR HAPS

Z.1 Date to comply with emission standards

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6595(a)(1), the owner or operator shall comply with the applicable emission standards and operating limitations specified in this chapter on and after May 3, 2013.

Z.2 Emission limit for generator

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6603(a), except during periods of startup, the owner or operator shall limit concentrations of carbon monoxide emission from the generator to less than or equal to 49 parts per million by volume on a dry basis at 15 percent oxygen or reduce carbon monoxide emissions from the generator by 70 percent or more. Compliance with the numerical emission limits is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in permit condition Z.9.

Z.3 Operating limitations.

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR §§ 63.6603(a) and 63.6630(b), the owner or operator shall comply with the emission limit in permit condition Z.2 by one of the following methods:

1. If the owner or operator uses a oxidation catalyst, the owner or operator shall:
    a. Maintain the catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and

b. Maintain the temperature of the exhaust gases so that the catalyst inlet temperature is greater than or equal to 450 degrees Fahrenheit and less than or equal to 1,350 degrees Fahrenheit.

2. If the owner or operator complies without using an oxidation catalyst, the owner or operator shall comply with operating limitations approved by the Secretary.

Z.4 Fuel requirements.

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6604, the owner or operator shall only combust diesel fuel in the generator that meets the following per gallon standards:

1. Maximum sulfur content of 15 parts per million; and
2. Minimum cetane index of 40; or
3. Maximum aromatic content of 35 volume percent.

Z.5 General requirements.

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6605, the owner or operator shall be in compliance with permit condition Z.2 and Z.3 at all times. The owner or operator at all times must operate and maintain the generator, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required in permit condition Z.2 and Z.3 have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on available information which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the generator.

Z.6 Initial testing.

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR §§ 63.6612(a) and 63.6630(a), the owner or operator shall conduct an initial compliance demonstration within 180 days after May 3.

Z.7 Initial testing may not be required.

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR §§ 63.6612(b) and 63.6670(c)(5), the owner or operator is not required to conduct the initial performance testing on a generator for which a performance test has been previously conducted provided the test must meet all of the following conditions:

1. The test must have been conducted using the same methods specified in this chapter and the methods must have been followed correctly;
2. The test must not be older than 2 years;

3. The test must be reviewed and accepted by the Administrator of EPA through the Secretary; and
4. Either no process or equipment changes must have been made since the test was performed or the owner or operator must be able to demonstrate the results of the performance test, with or without the adjustments, reliably demonstrates compliance despite process or equipment changes.

Z.8 Performance test procedures.

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6620, the owner or operator shall conduct each performance test according to the following:

1. If the owner or operator decides to reduce carbon monoxide emissions, the following is required:
   a. Measure the oxygen at the inlet and outlet of the control device with a portable oxygen analyzer using ASTM D6522-00 (2005) or 40 CFR Part 60, Appendix A, Methods 3A and 10. Measurements to determine oxygen must be made at the same time as the measurements for carbon monoxide concentrations; and
   b. Measure the carbon monoxide at the inlet and outlet of the control device with a portable carbon monoxide analyzer using ASTM D6522-00 (2005), ASTM D6348-03, 40 CFR Part 60, Appendix A, Methods 3A and 10, or 40 CFR Part 63, Appendix A, Method 320. The carbon monoxide concentrations must be at 15 percent oxygen, dry basis.
2. If the owner or operator decides to limit the concentration of carbon monoxide emissions, the following is required:
   a. Select the sampling port locations and the number of traverse points using 40 CFR Part 60, Appendix A, Method 1 or 1A. If using a control device, the sampling site must be located at the outlet of the control device;
   b. Determine the oxygen concentration at the sampling port locations using 40 CFR Part 60, Appendix A, Method 3, 3A, or 3B or ASTM Method D6522-00 (2005);
   c. Measure the moisture content at the sampling port locations using 40 CFR Part 60, Appendix A, Method 4, 40 CFR Part 63, Appendix A, Method 320, or ASTM D6348-03; and
   d. Measure the carbon monoxide concentrations at the sampling port locations using 40 CFR Part 60, Appendix A, Method 10, 40 CFR Part 63, Appendix A, Method 320, ASTM D6522-00 (2005), or ASTM D6348-03. The carbon monoxide concentration must be at 15 percent oxygen, dry basis.

3. The owner or operator must conduct three separate test runs for each performance test and each test run shall last at least 1 hour. Upon receiving approval from the Secretary, results of a test run may be replaced with the results of an additional test run in the event that:
    a. A sample is accidentally lost after the testing team leaves the site;
    b. Conditions occur in which one of the three runs must be discontinued because of forced shutdown;
    c. Extreme meteorological conditions occur; or
    d. Other circumstances occur that are beyond the control of the owner or operator.
4. Equation Z-1 shall be used to determine compliance with the percent reduction requirement;

Equation Z-1 – Demonstrating compliance with percent reduction

$$R = \frac{C_i - C_o}{C_i} \times 100$$

Where:

- C_i = Concentration of carbon monoxide at the control device inlet;
- C_o = Concentration of carbon monoxide at the control device outlet; and
- R = Percent reduction of carbon monoxide emissions.

5. The owner or operator must normalize the carbon monoxide concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen or an equivalent percent of carbon dioxide. If pollutant concentrations are to be corrected to 15 percent oxygen and carbon dioxide concentrations is measured in lieu of oxygen concentration measurement, a carbon dioxide correction factor is needed. Calculate the carbon dioxide correction factor as described below:
    a. Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from 40 CFR Part 60, Appendix A, Method 19, section 15.2 and Equation Z-2;

Equation Z-2 – Fuel-specific F_o value

$$F_o = \frac{0.209 F_d}{F_c}$$

Where:

- F_o = Fuel factor based on the ratio of oxygen volume to ultimate carbon dioxide volume produced by the fuel at zero percent excess air;
- 0.209 = Fraction of air that is oxygen, percent/100;

- F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from 40 CFR Part 60, Method 19, dry standard cubic foot per 10^6 Btus; and
- F_c = Ratio of the volume of carbon dioxide produced to the gross calorific value of the fuel from 40 CFR Part 60, Method 19, dry standard cubic foot per 10^6 Btus.

b. Calculate the carbon dioxide correction factor for correcting measurement data to 15 percent oxygen using Equation Z-3; and

Equation Z-3 – Carbon dioxide correction factor

$$X_{CO2} = \frac{5.9}{F_o}$$

Where:

- X_{CO2} = Carbon dioxide correction factor, percent; and
- 5.9 = 20.9 percent oxygen-15 percent oxygen, the defined oxygen correction value, percent.

c. Calculate the nitrogen oxide and sulfur dioxide gas concentrations adjusted to 15 percent oxygen using carbon dioxide and Equation Z-4;

Equation Z-4 – Carbon dioxide correction factor

$$C_{adj} = C_d \frac{X_{CO2}}{\%CO2}$$

Where:

- %CO2 = Measured carbon dioxide concentration, dry basis, percent.

6. If the owner or operator complies with the emission limit or the reduction of carbon monoxide emissions and is not using an oxidation catalyst, the owner or operator must submit the operational limitations to be established during the initial performance test and continuously monitor those parameter thereafter or request approval of no operating limitations. The initial performance test shall not be conducted until after the proposed operational limitations or no operational limitation has been approved by the Secretary.
7. The submittal for proposing operational limitations shall include the following:
   a. Identification of the specific parameters the owner or operator proposes to use as operating limitations;
   b. A discussion of the relationship between these parameters and hazardous air pollutant emissions, identifying how hazardous air pollutant emissions change with changes in these parameters, and how limitations on these parameters will serve to limit hazardous air pollutant emissions;

c. A discussion of how the owner or operator will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;
d. A discussion identifying the methods the owner or operator will use to measure and the instruments the owner or operator will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and
e. A discussion identifying the frequency and methods for recalibrating the instruments the owner or operator will use for monitoring these parameters.

8. The submittal for proposing no operational limitations shall include the following:
   a. Identification of the parameters associated with operation of the generator and any emission control device which could change intentionally (e.g., operator adjustment, automatic controller adjustment) or unintentionally (e.g., wear and tear, error) on a routine basis or over time;
   b. A discussion of the relationship, if any, between changes in the parameters and changes in hazardous air pollutant emissions;
   c. For the parameters which could change in such a way as to increase hazardous air pollutant emissions, a discussion of whether establishing limitations on the parameters would serve to limit hazardous air pollutant emissions;
   d. For the parameters which could change in such a way as to increase hazardous air pollutant emissions, a discussion of how the owner or operator could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;
   e. For the parameters, a discussion identifying the methods the owner or operator could use to measure them and the instruments the owner or operator could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;
   f. For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments the owner or operator could use to monitor them; and
   g. A discussion of why, from the owner's or operator's point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

9. The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report:
   a. The engine model number;
   b. The engine manufacturer;
   c. The year of purchase;
   d. The manufacturer's site-rated brake horsepower;

e. The ambient temperature, pressure, and humidity during the performance test;
f. All assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained; and
g. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

Z.9 Installation of open or closed crankcase system.

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6625(g), if the generator is not equipped with a closed crankcase ventilation system, the owner or operator shall comply with one of the following:

1. Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere; or
2. Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates, and metals.

The owner and operator must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Secretary to approve different maintenance requirements that are as protective as manufacturer requirements.

Z.10 Minimizing engine time during startup.

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6625(h), the owner or operator shall minimize the generator's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards in permit condition Z.2 apply.

Z.11 Monitoring and collecting data to demonstrate continuous compliance.

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6635, the owner or operator shall continuously monitor the generator at all times when it is operating, except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failure that are caused in part by poor maintenance or carless operation are not malfunctions. The owner or operator shall not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels.

Z.12 Reporting deviations.
In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6640(b), the owner or operator shall report instances when the generator did not meet the emission limits in permit condition Z.2 or operating limits in permit condition Z.3. These deviations must be reported in the semiannual report required in permit condition Z.19. If the owner or operator changes the catalyst, the owner or operator must reestablish the values of the operating parameters measured during the initial performance test. When the owner or operator reestablishes the values of the operating parameters, the owner or operator must also conduct a performance test to demonstrate the owner or operator is meeting the required emission limits in permit condition Z.2.

Z.13 Performance test notifications.
In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 66.6645(g), and in accordance with ARSD 74:36:08:03, as referenced to 40 CFR §§ 63.7(b)(1), 63.7(c), and 63.8(e)(3), the owner or operator shall submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin to allow the Secretary an opportunity to review and approve the site-specific test plan and have an observer present during the test. The site-specific test plan shall include:

1. A test program objectives and summary;
2. The test schedule;
3. Data quality objectives, which are the pretest expectations of precision, accuracy, and completeness data;
4. An internal quality assurance program which includes, at a minimum, the activities planned by routine operators and analysts to provide an assessment of the continuous monitoring system performance; and
5. An external quality assurance program which includes, at a minimum, systems audits that include the opportunity for onsite evaluation of instrument calibration, data validation, sample logging, and documentation of quality control data and field maintenance activities.

Z.14 Notification of compliance status.
In accordance with ARSD 74:36:08:40, as referenced to 40 CFR §§ 63.6630(c) and 63.6645(h), and in accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.9(h)(2)(ii), the owner or operator shall submit a Notification of Compliance Status containing the following information for each performance test or compliance demonstration:

1. The methods used to determine compliance;
2. The results of any performance tests, continuous monitoring system performance evaluations, and/or other monitoring procedures or methods that were conducted;
3. The methods used for determining continuing compliance, including a description of monitoring and reporting requirements and test methods;

4. The quantity of carbon monoxide emitted by the generator reported in the appropriate units for demonstrating compliance with permit condition Z.2;
5. A description of the air pollution control device (or method) for each generator, including the control efficiency (percent) for each control device (or method); and
6. A statement by the owner or operator as to whether the source has complied with the relevant standard or other requirements.

If the compliance demonstration does not require a performance test, the owner or operator must submit the Notification of Compliance Status within 30 days after completion of the compliance demonstration. A Notification of Compliance Status for each performance test and compliance demonstration that involves a performance test shall be submitted within 60 days after completion of the performance test.

Z.15 Semiannual compliance report.

In accordance with ARSD 74:36:08:40, as referenced to 40 CFR § 63.6650(a), (b), (c), (d), and (e), the owner or operator shall submit a semiannual report which contains the following:

1. Company name and address;
2. Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report;
3. Date of report and beginning and ending dates of the reporting period;
4. If a malfunction occurred during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused the emission limit in permit condition Z.2 to be exceeded. The report must also include a description of actions taken by the owner or operator during the malfunction to minimize emissions, including actions taken to correct a malfunction;
5. If there are no deviations from any emission limit in permit Z.2 or operating limits in permit condition Z.3, a statement that there were no deviations from the emission limits or operating limits during the reporting period;

The first semiannual report shall cover the period beginning May 3, 2013 and ending on June 30, 2013. The first semiannual report must be postmarked or delivered no later than July 31, 2013. Each subsequent semiannual report must cover the semiannual reporting period from January 1 through June 30 or July 1 through December 31. Each subsequent semiannual report shall be postmarked or delivered no later than July 31 or January 31.

Z.16 Recordkeeping.
In accordance with ARSD 74:36:08:40, as referenced to 40 CFR §§ 63.6655 and 63.6660, the owner or operator shall maintain the following records:

1. A copy of each notification and report the owner or operator submitted to comply with this chapter, including all documentation supporting any Initial Notification or Notification of Compliance Status reports;
2. Records of the occurrence and duration of each malfunction of operation or the air pollution control and monitoring equipment;
3. Records of performance tests and performance evaluations;
4. Records of all required maintenance performed on the air pollution control and monitoring equipment;
5. Records of actions taken during periods of malfunction to minimize emissions, corrective actions taken or preventive measures adopted to restore a malfunctioning process, air pollution control, and/or monitoring equipment to its normal or usual manner of operation;

All records shall be maintained in a form suitable and readily available for expeditious review for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report or record. At a minimum, the most recent 2 years of data shall be retained on site. The remaining 3 years of data may be retained off site.

Z.17 Circumvention not allowed.
In accordance with ARSD 74:36:08:03, as referenced to 40 CFR § 63.4(b), no owner or operator shall build, erect, install, or use any article, machine, equipment, or process to conceal an emission that would otherwise constitute noncompliance with a relevant standard. Such concealment includes, but is not limited to the use of diluents to achieve compliance with a relevant standard based on the concentration of a pollutant in the effluent discharged to the atmosphere.

8.0 Recommendation

A review of this facility indicates it can operate in compliance with South Dakota's Air Pollution Control rules and the federal Clean Air Act. The Secretary, therefore, recommends that the Board of Minerals and Environment issue this minor air quality operating permit with conditions to ensure compliance with SDCL 34A-1 and the federal Clean Air Act. Any questions pertaining to the Secretary's recommendation should be directed to Ashley Brakke, Engineer I, at (605) 773-3151.